Calcinosis of the placenta in iron deficiency anemia in pregnant women compared to non anemia observations is characterized by higher average values of the optical density of staining on the Bax protein and lower average values of the optical density of staining on the anti-apoptotic protein Bcl-2 in trophoblast in all the zones of the placenta (A, B, C).

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FETUSES ANATOMY OF THE OVARIAN

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Defects of the urinary system take the 3rd place by their occurrence including 6% of developmental defects of the female reproductive organs. Therefore modern studies in the field of perinatal anatomy are of a special importance.

The aim of the current study was to determine age peculiarities in the structure and topography of the fetal ovaries as well as similar and different tendencies in changes of the ovarian morphological parameters of the two groups of fetuses, remote in time.

The study was conducted in the two groups of human fetuses, 4-10 months of development, 161.0-500.0 mm of the parietal-calcaneal length. The first group consisting of 35 specimens divided into 7 subgroups according to the month of development (4-10), collected with fetuses died during 2017-2019. The second group included specimens of fetuses collected during 1970-1990.

The length of the ovary in both groups increases gradually from the 4th to the 10th month with a certain delay during the 6th month. The majority of the ovarian parameters of 9-10 month fetuses do not differ reliably, which is indicative of a complete development of the ovarian definite structure at the 9th month of the intrauterine development. Comparison of the parameters of the two groups of fetal specimens, remote in time, is indicative of the fact that in the majority of the parameters they do not differ. Although in modern studies the length of the right ovary in 8-month fetuses, and the length of the left ovary in 7-month fetuses is shorter than that of the archival specimens. Similarly the width of the left ovary in 4-month fetuses appears to be reliably shorter than that of the archival specimens. The thickness of the right ovary of 7 and 10-month modern fetuses is reliably less than that of the appropriate groups of the archival specimens. The thickness of the left ovary of modern fetuses is reliably less than that of the archival specimens during the 10th month.

Reliable difference was found only in 2 pairs of the parameters included in 42 pairs of the examined morphometric parameters of both groups. It is indicative of inconsiderable changes of these parameters during the period of 27-49 years.

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MORPHOLOGICAL FEATURES OF TELENCEPHALON CAVITY DURING 4-8TH WEEKS OF PRENATAL PERIOD OF HUMAN ONTOGENESIS

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The current study is connected with evaluation of the structural transformations of the final brain and its cavities. It is undeniable that pathological changes in the ventricular system of the brain occur in the prenatal period quite often, which determines the relevance and necessity of our study. At the same time, morphological and morphometric parameters of the cavities of the brain are one of the criteria for assessing the brain ontogenesis and can serve as a basis for prenatal diagnosis of congenital developmental disorders.

To obtain qualitative and quantitative criteria, the present study was carried out on 29 preparations of human embryos and fetuses using morphological methods, such as the study and description of histological and topographic anatomical sections, macroscopy and microscopy, dissection and morphometry. To process the data obtained, the method of variation statistics was used.

According to the conducted study, from 4 to 12 weeks of prenatal development, the formation of brain structures, and especially the ventricular system, occurs intensively. At the 8th week in fetuses, the lateral ventricles of the brain correspond to the lobes of the hemispheres and area bean-shaped, elongated in the anteroposterior direction with an interception in the central part. In each of them, one can distinguish the anterior horn, central part, posterior and lower horns. The shape of the third ventricle approaches a rhombus, but there is a sharp elongation of it in length compared to its growth in width. In the anterior horn, the anterosuperior surface of the anterior horn is formed by laying the frontal part of the radiance and the genu of the corpus callosum. The inferolateral wall of the anterior horn is represented by the medial surface of the head of the caudate nucleus, protruding into the cavity of the anterior horn. The medial wall is formed by a thin plate of a septum pellucidum. On a horizontal section the cavity of the anterior horn of the lateral ventricle has a shape close to a circle. The central part of the lateral ventricle is extended in the anteroposterior direction parallel to the median plane. In the central part, the upper wall is formed by the parietal part of the radiance of the corpus callosum. The bottom of the central part of the lateral ventricle is formed: laterall body of the caudate nucleus, medially located by the terminal stria and the dorsal surface of the optic tubercle. The medial border of the central part of the lateral ventricle is the body of the fornix. On the frontal section, the central part of the lateral ventricle has the shape of an oval. The posterior horn of the lateral ventricle has medial, lateral and dorsal walls. The external and upper walls of the posterior horn are formed by part of the fibers of the corpus callosum.

The cavity of the posterior horn of the lateral ventricle on the frontal section has a circle shape. At the end of the 2nd month of development, a protrusion appears on the inner surface of the intensively growing anterior cerebral vesicles, from which the choroid plexus of the lateral and third ventricles will subsequently develop.

So, the intensity of development of the cavities and structures of the brain in the early period of ontogenesis is very high. The lateral and third ventricles are dilated, which indicates the presence of physiological hydrocephalus during the fourth month of intrauterine life, due to the accumulation of cerebrospinal fluid in the closed ventricular system.

Rusnak V.F.

TOPOGRAPHY OF THE PHARYNX IN THE FETUSES OF THE SIXTH WEEK OF HUMAN ONTOGENESIS

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In embryos of 9.2–10.6 mm parietal-coccygeal length PCL - the beginning of the sixth week of fetal development, the longitudinal size of the rudiment of the pharynx reaches 363-372 μm, the width of the lumen on the sagittal section is on average 122 μm. The entire primary oral cavity is occupied by a bulky tongue, in which you can easily distinguish the lateral rolls and the odd middle tubercle, at the merger of which the tongue is formed.

The pharyngeal openings of the auditory tubes are funnel-shaped, up to 4.7-5.2 μm in diameter.

In the caudal part of the anterior wall of the pharynx, at the point of departure of the tracheopulmonary rudiment, there is a thickening of the mesenchyme in the form of scoop and transverse rolls, which delimit the entrance to the respiratory tube. Thus begins the process of formation of the larynx and the associated differentiation of the laryngeal part of the pharynx, and therefore, we can talk about the emergence of a fairly clear boundary between the oral and laryngeal parts of the body.

The lumen of the pharynx is lined with a two-layer cylindrical epithelium. In the embryo of 10.6 mm PCL, the height of the cells increases and reaches 11–14 μm. The nuclei of epithelial cells are still located at different levels.

In the areas adjacent to the epithelial layer of the pharynx, the cells of the mesenchyme are located more compactly than in its peripheral parts, where they merge without a sharp border with